

CLAIMS

We claim:

- 5 1. A power tool comprising:
 a motor;
 a motor housing supporting the motor and defining an air outlet and an air
 flow path from the motor housing through the air outlet; and
 a shield removably connectable to the motor housing and positionable to at
10 least partially cover the air outlet.

2. The power tool of claim 1, wherein the power tool is a router.

3. A router comprising:
 - a base;
 - a motor housing supported by the base and defining an air outlet, air passing from the motor housing through the air outlet;
 - 5 a motor supported by the motor housing; and
 - a shield connectable to the motor housing in a position to at least partially cover the air outlet.
4. The router of claim 3, wherein the motor housing includes a plurality of housing blades spaced apart from one another to define openings therebetween, the openings at least partially defining the air outlet, and wherein the shield is positionable to at least partially cover at least one of the openings.
5. The power tool of claim 4, wherein the shield includes a plurality of shield blades spaced apart from one another to define openings therebetween, the shield blades being offset from the housing blades to at least partially cover the openings between the housing blades.
6. The router of claim 3, wherein the motor housing includes a plurality of housing blades spaced apart from one another at a first distance to define openings therebetween, the openings at least partially defining the air outlet, and wherein the shield includes a plurality of shield blades spaced apart from one another at a second distance to define openings therebetween, the second distance being smaller than the first distance.
- 25 7. The router of claim 6, wherein the second distance is less than or equal to about half of the first distance.
8. The power tool of claim 3, wherein the housing includes a plurality of housing blades spaced apart from one another to define housing openings therebetween, the housing openings at least partially defining the air outlet, and wherein the shield includes a plurality of shield blades spaced apart from one another to define shield openings therebetween.

9. The power tool of claim 8, wherein the housing openings have a first radial width measured at a radial distance from a central axis of the motor housing, and wherein the shield is connectable to the motor housing such that a second radial width is measured between the housing blades and the shield blades at the radial distance, the second radial width being less than the first radial width.

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10. The power tool of claim 9, wherein the second radial width is about half of the first radial width.

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11. The power tool of claim 9, wherein the first radial width is about 0.3 inches and the second radial width is about 0.15 inches.

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12. The power tool of claim 3, wherein the motor housing includes a plurality of housing blades spaced apart from one another to define openings therebetween, the openings at least partially defining the air outlet, and wherein the shield includes a plurality of shield blades spaced apart from one another to define openings therebetween, the shield being connected to the motor housing to at least partially cover each of the openings of the motor housing with at least one of the plurality of shield blades.

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13. The power tool of claim 3, wherein the motor housing includes a plurality of housing blades spaced apart from one another to define openings therebetween, the openings at least partially defining the air outlet, the plurality of housing blades being operable to direct air along a path, and wherein the shield includes a plurality of shield blades spaced apart from one another to define openings therebetween, the plurality of shield blades being oriented to direct air substantially along the path.

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14. The power tool of claim 3, wherein the shield includes a plurality of radially extending shield blades spaced apart from one another to define openings therebetween.

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15. The power tool of claim 14, wherein the plurality of radially extending shield blades are oriented to direct air passing through the air outlet and the openings along a desired path.

16. The power tool of claim 14, wherein the plurality of radially extending shield blades have a thickness of about 0.05 inches.

17. The power tool of claim 3, wherein the motor includes a motor shaft,
5 wherein the motor housing includes a body, a bearing support and a plurality of housing blades extending between the body and the bearing support and supporting the bearing support relative to the body, the housing blades being spaced apart from one another to define openings therebetween, the openings at least partially defining the air outlet, and wherein the bearing support supports a bearing for the motor shaft.

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18. The power tool of claim 3, wherein the shield is substantially circular.

19. The power tool of claim 3, wherein the shield is made of plastic.

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20. The power tool of claim 3, wherein the shield is made of nylon.

21. The router of claim 3, wherein the router has an upright orientation, in which the base is supported above a workpiece and the shield is below the air outlet, and an inverted orientation, in which the base is below a workpiece and the shield is above the
20 air outlet, the shield being operable to inhibit movement of debris through the air outlet and into the motor housing when the router is in the inverted orientation.

22. A contamination shield for a power tool, the power tool including a motor and a housing supporting the motor and defining an air outlet, the contamination shield comprising:

5 a connecting structure for connecting to the housing; and
 a plurality of blades spaced apart from one another to define openings
therebetween, the contamination shield being positionable to at least partially cover the air
outlet.

23. The contamination shield of claim 22, wherein the plurality of blades are a
10 plurality of radially extending blades.

24. The contamination shield of claim 22, wherein the contamination shield is
substantially circular.

25. A router comprising:
a base;
a motor housing supported by the base and movable relative to the base,
one of the base and the motor housing defining a depth adjustment column having an open
5 end;
a motor supported by the motor housing and operable to drive a tool
element;
a depth adjustment mechanism supported in the depth adjustment column
and being operable to adjust the cutting depth of the tool element; and
10 a flexible shield connectable to the base in a position to cover the open end
and to allow access to the depth adjustment mechanism through the open end.

26. The router of claim 25, wherein the flexible shield defines a perforation.

15 27. The router of claim 26, further comprising an adjustment member insertable
through the perforation, through the open end of the depth adjustment column, into the
depth adjustment column and into engagement with the depth adjustment mechanism,
rotation of the adjustment member causing the depth adjustment mechanism to adjust the
cutting depth of the tool element.

20 28. The router of claim 25, wherein the router has an upright operating
condition, in which the base is supported above a workpiece and the open end and the
flexible shield are positioned below the depth adjustment column, and an inverted
operating condition, in which the base is below a workpiece and the open end and the
25 flexible shield are positioned above the depth adjustment column, the flexible shield being
operable to inhibit movement of debris through the open end and into the depth adjustment
column.

29. The router of claim 25, further comprising a base plate connectable to the
30 base, the flexible shield being secured between the base plate and the base.

30. The router of claim 29, wherein the base plate defines a base plate aperture, the base plate aperture being at least partially aligned with the flexible shield and with the open end to facilitate insertion of an adjustment member through the flexible debris shield and into the depth adjustment column, the adjustment member being engageable with the 5 depth adjustment mechanism and rotatable to adjust the cutting depth of the tool element.

31. The router of claim 25, wherein the flexible shield defines two perforations arranged generally in a X-shape.

10 32. The router of claim 25, wherein the base defines the depth adjustment column.

33. A router comprising:
a base;
a motor housing supported by the base and defining a generally vertical
motor housing axis;

5 a motor supported by the motor housing; and
 a handle connected to at least one of the base and the motor housing, the
 handle defining a handle axis and having a grip portion extending generally along the
 handle axis, the handle axis being non-parallel to the motor housing axis.

10 34. The router of claim 33, wherein the motor housing axis is in a vertical first
 plane, and wherein the handle axis is in a non-vertical second plane intersecting the first
 plane.

15 35. The router of claim 33, further comprising a second handle connected to at
 least one of the base and the motor housing, the second handle defining a second handle
 axis and having a second grip portion extending generally along the second handle axis,
 the second handle axis being non-parallel to the motor housing axis.

20 36. The router of claim 35, wherein the motor housing axis is in a vertical
 housing plane, wherein the first-mentioned handle axis is in a non-vertical first plane
 intersecting the housing plane, and wherein the second handle axis is in a non-vertical
 second plane intersecting the housing plane.

25 37. The router of claim 36, wherein the first plane is generally parallel to the
 second plane.

30 38. The router of claim 33, wherein the grip portion has a grip surface, the grip
 surface extending along a curve.

30 39. The router of claim 38, wherein the grip surface extends along a serpentine
 curve.

40. The router of claim 33, wherein the grip portion has a first end and a second end, and wherein the handle includes a first connecting portion connecting the first end of the grip portion to the at least one of the base and the motor housing and a second connecting portion connecting the second end of the grip portion to the at least one of the
5 base and the motor housing.